

REMARKS

This communication responds to the Office Action mailed June 19, 2009. Claims 1, 2, 7, 8, 11, 13, 16, 17, 19-22, and 24-31 are pending. By this amendment, claims 1, 8, 11, 13, 17, 19, and 27-31 are amended, and claims 7 and 16 are cancelled without prejudice or disclaimer to the subject matter therein. After entry of this amendment, claims 1, 2, 8, 11, 13, 17, 19-22 and 24-31 will be pending. Applicant respectfully submits the following remarks.

Drawing Objections

The Examiner has objected to the drawings under 37 CFR 1.83(a). Applicant has amended claims 30 and 31 to remove the references to a “spade rudder” and “a further propulsion unit...” respectively. Accordingly, Applicant respectfully requests the objection be withdrawn.

Claim Objections

Claims 27 and 28 were objected to in the Office Action. Applicant has amended the claims to address the objection and respectfully requests the Examiner withdraw the objection based on the amendments above.

Abstract Objections

The Examiner has objected to the Abstract. Applicant submits herewith a replacement abstract and respectfully requests the Examiner withdraw the objection.

Specification Objections

The Examiner has objected to the Specification. Applicant has amended the specification as provided above to address the Examiner’s objection. Accordingly, Applicant respectfully requests the Examiner withdraw the objection.

Claim Rejections Under 35 USC § 112

The Examiner has rejected claims 1, 2, 7, 8, 11, 13, 16, 17, 19-22, and 24-31 under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant respectfully traverses the rejection and requests reconsideration in light of the amendments above. Specifically, Applicant has cancelled claims 7 and 16, and has amended claims 1, 27, 29, and 31 to address the Examiner's concerns. Accordingly, Applicant respectfully requests the Examiner withdraw the rejection of claims 1, 2, 7, 8, 11, 13, 16, 17, 19-22, 24-31.

Claim Rejections Under 35 USC §§ 102, 103

Claims 1, 7, 20, 21, 25, and 27 stand rejected under 35 USC § 102(b) as being anticipated by U.S. Patent No. 3,954,231 (Fraser). In addition, claims 2, 7, 8, 11, 13, 16, 17, 19, 22, 24, 30 and 31 stand rejected as being unpatentable under 35 USC § 103(a) over Fraser. Claim 26 stands rejected under § 103(a) over Fraser in view of U.S. Patent No. 3,614,033 (McCarty), and claims 28 and 29 stand rejected as being unpatentable over Fraser in view of U.S. Patent No. 6,014,940 (Jacobson). Applicant respectfully traverses the rejections and requests reconsideration based on the amendments above and the remarks that follow.

With respect to independent claim 1, Applicant submits that Fraser does not disclose or make obvious all of the limitations of amended claim 1. Applicant has amended claim 1 to include the limitations of now-cancelled claims 7 and 16. Accordingly, claim 1 now provides a wing-in-ground-effect craft having, among other things, a canard forewing with an inner portion and an outer portion, wherein the outer portion has an angle of attack less than an angle of attack of the inner portion.

Applicant agrees with the Examiner that Fraser does not disclose an outer forewing portion having an angle of attack less than an angle of attack of a forewing inner portion, but respectfully disagrees with the Examiner's position that one of ordinary skill in the art would modify Fraser to include these features through routine optimization or experimentation. See Office Action, p. 11, #26. To properly support a conclusion of obviousness, "either the

references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). Additionally, there must be a reasonable expectation of success. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Applicant respectfully submits that there is no convincing line of reasoning for the modification of Fraser because Fraser teaches away from the claimed limitations. Accordingly, one of ordinary skill in the art would not seek to modify Fraser to provide the claimed invention with any reasonable expectation of success.

For example, Fraser appears to provide a forward lifting wing with an inner portion and outer portion, in which the outer portion stalls before the inner portion. See Fraser, col. 2, lines 54-60, (“The outer elevating wing portions stall (non-ruddered portion); then the remaining inboard dihedral portion by its characteristics, stall at a greater angle of attack, but owing to the stalled outer portion.... Emphasis added.). Thus, Fraser teaches the outer wing portion has a greater angle of attack than the inner wing portion. Conversely, independent claim 1 requires that the outer portion have an angle of attack less than the angle of attack of the inner portion. Accordingly, one skilled in the art would not seek to make the angle of attack of Fraser’s outer portion less than the inner portion because Fraser specifically teaches this configuration as providing the desired stalling patterns.

The canard forewing according to claim 1 is advantageous in that it provides enhanced sea clearance, avoids the canard forewing getting buried in the occasional sea, and improves stability. See page 7, lines 25-29 of the published international application. In addition, the greater angle of attack of the canard inner portion (relative to the outer portion and the main wing) means the inner portion stalls before the outer portions and the main wing, which tends to drop the nose of the craft. Thus, the canard provides “stall first” pitch stability for the craft. See page 8, lines 7-15 of the published international application. In contrast, Fraser’s design avoids stalling of the inner portions of the forewing. See col. 25, lines 1-2, (“and thus the inner portions of the wing surfaces, cannot be induced to stall...”).

Accordingly, Applicant submits that Fraser’s teaching away from the claimed invention precludes any convincing line of reasoning for modifying Fraser according to independent claim 1. There is no disclosure or teaching in this regard and a person skilled in the art would not have

arrived at the subject matter of claim 1 without impermissible hindsight gained from a reading of Applicant's specification. Applicant respectfully submits that it appears that the Examiner has merely applied the teaching of the present application to Fraser and simply alleged that it would have been obvious to do so in light of the advantages disclosed in the present specification

Accordingly, Applicant respectfully submits claim 1 is patentable over Fraser and requests the Examiner withdraw the rejections and allow the claim. Claims 7 and 16 have been cancelled, thus rendering their rejection moot. Claims 2, 8, 11, 13, 17, 19-22, and 24-31 directly or indirectly depend from claim 1, and thus are believed to be patentable at least for the reasons presented above.

Conclusion

Applicant submits that this application is in condition for allowance for at least the reasons presented above. Favorable consideration and prompt allowance of the application are respectfully requested. The Commissioner is hereby authorized to charge any additional fees required to Deposit Account No. 061910. The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,

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